

THE INVENTION CLAIMED IS

1. A lifter, comprising:

5 an elevator plate fitted with a set of cam lifters distributed around an axis;

 a multiple-lobe cam disposed in the edge of a hollow cylinder around said axis, and such that said set of cam lifters ride along said edge and provide for
10 straight lifting and lowering of the elevator plate; and
 a transmission and motor for turning the multiple-lobe cam relative to the elevator plate.

2. The lifter of claim 1, wherein:

15 the multiple-lobe cam includes symmetrical sided lobes that permit the transmission and motor to operate in a single direction for both said lifting and lowering of the elevator plate.

20 3. The lifter of claim 1, wherein:

 the multiple-lobe cam includes three symmetrical sided lobes that provide a three-point support of the elevator plate.

25 4. The lifter of claim 1, wherein:

 the multiple-lobe cam and cam lifters provide flat spots on which to rest at minimum and maximum heights of elevation of the elevator plate.

30 5. An automated warehouse system row cart, comprising:

 a rail car for trucking pallet loads within an automated warehouse;

a top tray disposed on top of the rail car and providing for lifting and lowering said pallet loads;

5 a lifter set inside the rail car and supporting the top tray, and providing for straight lifting and lowering;

an elevator plate included in the lifter and fitted with a set of cam lifters distributed around an axis;

10 a multiple-lobe cam disposed in the edge of a hollow cylinder around said axis, and such that said set of cam lifters ride along said edge and provide for straight lifting and lowering of the elevator plate; and

15 a transmission and motor for turning the multiple-lobe cam relative to the elevator plate and disposed within the rail car.

6. The row cart of claim 5, wherein:

the rail car provides for docking with an aisle cart in said automated warehouse.